

U.S. Department of Commerce (DoC)  
National Institute of Standards and Technology-NIST  
(formerly National Bureau of Standards-NBS)  
Office of Standards Services

**Body Measurements for the Sizing of Apparel**

The commercial standard (CS) and products standards (PS) on the body measurements for the sizing of apparel for the following: Infants, Babies, Toddlers and Children (CS151-50); Boys (PS36-70); Young Men (PS45-71); Girls (PS54-72); and Women (PS42-70) maintained by NBS under the Voluntary Product Standards (VPS) Program were **withdrawn**. This was in accordance with the procedures announced on January 20, 1983 by the U.S. Department of Commerce (DoC) to withdraw these standards after sponsorship was assumed by the private industry sector.

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The American Society for Testing and Materials (ASTM) is developing standards on sizing of apparel. In October 1982, ASTM established Subcommittee D13.55 on Body Measurement and Apparel Sizes within Technical Committee D13 on Textiles to take over the work previously handled by the U.S. Department of Commerce, National Bureau of Standards (NBS).

For assistance on related or additional standards (see page 2) under the jurisdiction of ASTM Subcommittee D13.55 - Body Measurement for Apparel Sizing and/or copies, please contact:

American Society for Testing and Materials (renamed **ASTM International**)  
100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959, USA  
Telephone: (610) 832-9500; Information Center (610) 832-9550  
ASTM Fax: (610) 832-9555  
Internet: <http://www.astm.org> (click on Standards, Technical Committees, etc.)

**Technical Committee ASTM D13 on Textiles**  
Staff Manager: Maxie Topping ([mtopping@astm.org](mailto:mtopping@astm.org))  
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**Technical information and questions, contact:**

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Chairperson, Subcommittee ASTM D13.55  
U.S. Natick Clothing and Textile Research Facility  
43 Boyd Street, Watertown, Massachusetts 02172, USA  
Telephone: (508) 233-4133; Fax: (508) 233-4783

\*\*\*\*\*

The following organization may provide additional information sources on the subject, contact:  
American Apparel Manufacturers Association and the Footwear Industries of America (now the **American Apparel and Footwear Association-AAFA**), 1601 North Kent Street, Suite 1200, Arlington, Virginia 22209, USA Telephone: (800) 520-2262 (ext. 1034-Publications Dept.); (703) 524-1864 (ext.1034-Publications Dept.); Fax: (703) 522-6741.

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The activity on body-size standards began in the late 1940's under the Department of Commerce with NBS serving as a coordinator and point of contact for copies of the documents. The VPS body-size standards were developed by committees made up of textile manufacturers, designers, and retailers, and based on measurements obtained from the Department of Agriculture. The Mail Order Association provided the support for the body-size standards.

Listed below are various standards under the jurisdiction of ASTM Subcommittee D13.55:

D4910-99, Standard Tables of Body Measurements for Infants, Sizes 0 to 24

D5219-99, Standard Terminology Relating to Body Dimensions for Apparel Sizing

D5585-95 (2001), Standard Table of Body Measurements for Adult Female Misses Figure Type, Sizes 2-20

D5586-95, Standard Tables of Body Measurements for Women Aged 55 and Older (All Figure Types)

D5826-00, Standard Tables of Body Measurements for Children, Sizes 2 to 6x7

D6192-98, Standard Tables of Body Measurements for Girls, Sizes 7 to 16

D6240-98, Standard Tables of Body Measurements for Men Sizes Thirty-Four to Sixty (34 to 60) Regular

D6458-99, Standard Tables of Body Measurements for Boys, Sizes 8 to 14 Slim and 8 to 20 Regular

Department of Defense– DOD:

HDBK-743A-1991, Anthropometry of U.S. Military Personnel (Metric)

MIL-STD-984A-1994, Size Labeling for Women's Uniform Clothing, Provisions for

**International Market Research (IMR) Reports**

IMR reports are original studies of growth export markets for selected U.S. industries. They are prepared on the spot, in the country of research, by market consultants under contract to the U.S. Department of Commerce or by the U.S. Foreign Commercial Service. The reports reflect the opinions and view of the surveyed country's end users, importers, agents, distributors and government officials. Fees for such reports are between \$50 and \$100, depending on length of the report.

Stephen B. Strauss,  
Deputy Assistant Secretary for Trade Information and Analysis.

(FR Doc. 83-1565 Filed 1-19-83; 8:45 am)  
BILLING CODE 3510-25-M

**National Bureau of Standards****Status Report on Voluntary Product Standards**

**AGENCY:** National Bureau of Standards, Commerce.

**ACTION:** Development, maintenance, and withdrawal of certain voluntary standards.

**SUPPLEMENTARY INFORMATION:** On August 30, 1982, the Department of Commerce (Department) announced in the *Federal Register* (47 FR 38171) the status of 28 standards classified as voluntary standards. The announcement was made in accordance with the revised "Procedures for the Development of Voluntary Product Standards" (15 CFR Part 10).

The August 30, 1982, notice specified the retention of specific standards for fixed periods of time. The updated status of all existing voluntary standards is indicated below.

The following Voluntary Product Standards will continue to be maintained by the Department:

**Standard and Proponent Organization**

- PS 1-74 "Construction and Industrial Plywood", American Plywood Association  
PS 20-70 "American Softwood Lumber Standard", American Lumber Standards Committee  
PS 73-77 "Carbonated Soft Drink Bottles", Glass Packaging Institute

The Department has agreed to sponsor the development of a Voluntary Product Standard for the production of carbonated soft drinks in glass bottles, which was requested by the National Soft Drink Association. It has been determined that this standards project meets the six requirements for

Department sponsorship stated in § 10.0(b) of the mentioned Procedures.

The following standards will be retained by the Department until January 20, 1984, to permit the orderly transfer of sponsorship of such standards from the Department to the identified organizations.

- PS 56-73 "Structural Glued Laminated Timber", American Institute of Timber Construction  
PS 67-76 "Marking of Gold Filled and Rolled Gold Plate Articles Other Than Watchcases", Jewelers Vigilance Committee  
PS 68-76 "Marking of Articles Made of Silver in Combination with Gold", Jewelers Vigilance Committee  
PS 69-76 "Marking of Articles Made Wholly or in Part of Platinum" Jewelers Vigilance Committee  
PS 70-76 "Marking of Articles Made of Karat Gold", Jewelers Vigilance Committee  
PS 71-76 "Marking of Jewelry and Novelties of Silver", Jewelers Vigilance Committee  
PS 72-76 "Toy Safety", American Society for Testing and Materials

\* In accordance with § 10.13 of the mentioned Procedures, notice is hereby given of the withdrawal of the following standards. This action is taken in furtherance of the Department's announced intentions as set forth in the August 30, 1982, notice to withdraw these standards. The effective date for the withdrawal of the standards will be March 21, 1983. This withdrawal action terminates the authority to refer to these standards as voluntary standards developed under the Department of Commerce procedures. The organizations listed below have assumed responsibility for the standards.

- PS 36-70 "Body Measurements for the Sizing of Boys' Apparel", American Society for Testing and Materials  
PS 42-70 "Body Measurements for the Sizing of Women's Patterns and Apparel", American Society for Testing and Materials  
PS 45-71 "Body Measurements for the Sizing of Apparel for Young Men (Students)", American Society for Testing and Materials  
PS 51-71 "Hardwood and Decorative Plywood", Hardwood Plywood Manufacturers Association  
PS 54-72 "Body Measurements for the Sizing of Girls' Apparel", American Society for Testing and Materials  
PS 63-75 "Latex Foam Mattresses for Hospitals", American Society for Testing and Materials  
PS 66-75 "Safety Requirements for Home Playground Equipment", American Society for Testing and Materials  
CS 151-50 "Body Measurements for the Sizing of Apparel for Infants, Babies, Toddlers and Children (for the Knit

Underwear Industry)", American Society for Testing and Materials

**FOR FURTHER INFORMATION CONTACT:** Karl G. Newell, Jr., Office of Product Standards Policy, National Bureau of Standards, Washington, D.C. 20234, Telephone: (301) 921-2368.

Dated: January 6, 1983.

Ernest Ambler,

Director.

(FR Doc. 83-827 Filed 1-19-83; 8:45 am).

BILLING CODE 3510-13-M

**Office of the Secretary****President's Private Sector Survey on Cost Control; Open Meeting**

**AGENCY:** Office of the Secretary, Commerce.

**ACTION:** Notice of Public meeting of the Executive Committee of the President's Private Sector Survey on Cost Control.

**SUMMARY:** The President's Private Sector Survey on Cost Control was established by the President pursuant to Executive Order 12369 of June 30, 1982, and extended by Executive Order 12398 of December 31, 1982. The Executive Committee of the Survey is chartered by the Department of Commerce as a public advisory committee in accord with the Federal Advisory Committee Act.

The purpose of the President's Private Sector Survey on Cost Control is to conduct a private sector survey on cost control in the Federal Government and to advise the President, the Secretary of Commerce, and other Executive agency heads with respect to improving management and reducing costs.

**Time and Place**

February 4, 1983 at 11:00 a.m. The meeting will take place at the U.S. Department of Commerce Auditorium, First Floor, Herbert C. Hoover Building, 14th Street and Constitution Avenue, N.W., Washington, D.C. 20230.

**Agenda**

(1) Receive a status report on activities of the President's Private Sector Survey.

(2) Establish a Subcommittee of the Executive Committee. The purposes of the Subcommittee are: (i) To review the recommendations submitted, including task force reports and public comments, and (ii) determine which recommendations should be made to the President and Departments and Agencies.

**SUPPLEMENTARY INFORMATION:** To accomplish the President's objective that the survey be funded, to the

**WITHDRAWN**

**NBS  
Voluntary  
Product  
Standard**

PS 54-72

U.S. STATES  
DEPARTMENT OF  
COMMERCE  
PUBLICATION



**WITHDRAWN**

**Body Measurements for  
the Sizing of Girls' Apparel**

U.S.  
DEPARTMENT  
OF  
COMMERCE  
National  
Bureau  
of Standards

A Voluntary Standard  
Developed by Producers,  
Distributors, and Users  
With the Cooperation of the  
National Bureau of Standards

UNITED STATES DEPARTMENT OF COMMERCE • Frederick B. Dent, *Secretary*

NATIONAL BUREAU OF STANDARDS • Richard W. Roberts, *Director*

## **Voluntary Product Standard PS 54-72**

### **Body Measurements for the Sizing of Girls' Apparel**

Technical Standards Coordinator: Charles W. Devereux, II

#### Abstract

This Voluntary Product Standard establishes a nationally recognized sizing system for girls, based on body measurements. The standard covers three classifications: slims, regulars, and chubbies. In each classification, sizes 7, 8, 10, 12, 14, and 16 are defined by 33 body measurements.

**Key words:** Apparel, girls'; body measurements, girls'; classifications, girls' size; grading charts, girls' size; size designations, girls'; span charts, girls' sizing.

Nat. Bur. Stand. (U.S.) Prod. Stand. 54-72, 19 pages (July 1973)

CODEN: KNPSAX

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For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402  
(Order by SD Catalog No. O13.20/2:54-72), Price: 30 cents, domestic postpaid; 20 cents, GPO Bookstore  
Stock No. 0303-01138

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## **VOLUNTARY PRODUCT STANDARDS**

*Voluntary Product Standards* are standards developed under procedures established by the Department of Commerce (15 CFR Part 10, as amended, May 28, 1970). The standards may include (1) dimensional requirements for standard sizes and types of various products, (2) technical requirements, and (3) methods of testing, grading, and marking. The objective of a *Voluntary Product Standard* is to establish requirements which are in accordance with the principal demands of the industry and, at the same time, are not contrary to the public interest.

### **Development of a VOLUNTARY PRODUCT STANDARD**

The Office of Engineering Standards Services of the National Bureau of Standards has been assigned by the Department of Commerce the responsibility to work closely with scientific and trade associations and organizations, business firms, testing laboratories, and other appropriate groups to develop *Voluntary Product Standards*. The Bureau has the following role in the development process: It (1) provides editorial assistance in the preparation of the standard; (2) supplies such assistance and review as is required to assure the technical soundness of the standard; (3) acts as an unbiased coordinator in the development of the standard; (4) sees that the standard is representative of the views of producers, distributors, and users or consumers; (5) seeks satisfactory adjustment of valid points of disagreement; (6) determines the compliance with the criteria established in the Department's procedures cited above; and (7) publishes the standard.

Industry customarily (1) initiates and participates in the development of a standard; (2) provides technical counsel on a standard; and (3) promotes the use of, and support for, the standard. (A group interested in developing a *Voluntary Product Standard* may submit a written request to the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234.)

A draft of a proposed standard is developed in consultation with interested trade groups. Subsequently, a Standard Review Committee is established to review the proposed standard. The committee, appropriately balanced, includes qualified representatives of producers, distributors, and users or consumers of the product being standardized. When the committee approves a proposal, copies are distributed for industry consideration and acceptance. When the acceptances show general industry agreement, and when there is no substantive objection deemed valid by the Bureau, the Bureau announces approval of the *Voluntary Product Standard* and proceeds with its publication.

### **Use of a VOLUNTARY PRODUCT STANDARD**

The adoption and use of a *Voluntary Product Standard* is completely voluntary. *Voluntary Product Standards* have been used most effectively in conjunction with legal documents such as sales contracts, purchase orders, and building codes. When a standard is made part of such a document, compliance with the standard is enforceable by the purchaser or the seller along with other provisions of the document.

*Voluntary Product Standards* are useful and helpful to purchasers, manufacturers, and distributors. Purchasers may order products that comply with *Voluntary Product Standards* and determine for themselves that their requirements are met. Manufacturers and distributors may refer to the standards in sales catalogs, advertising, invoices, and labels on their product. Commercial inspection and testing programs may also be employed, together with grade labels and certificates assuring compliance, to promote even greater public confidence. Such assurance of compliance promotes better understanding between purchasers and sellers.

## Body Measurements for the Sizing of Girls' Apparel

Effective April 14, 1972. (See section 6.)

(This Standard, which was initiated by the Mail Order Association of America, has been developed under the *Procedures for the Development of Voluntary Product Standards* of the U.S. Department of Commerce as a revision of CS 153-48, *Body Measurements for the Sizing of Apparel for Girls*. See Section 7, *History of Project*, for further information.)

### 1. PURPOSE

The purpose of this Voluntary Product Standard is to provide standard classifications and size designations for girls' ready-to-wear apparel. It is intended to provide guidance to those preparing pattern specifications for ready-to-wear garments and to assist in correct size selection regardless of price, type of apparel, or manufacturer of the garment.

### 2. SCOPE AND CLASSIFICATION

**2.1. Scope**—This Voluntary Product Standard covers three size classifications and six size designations within each of these classifications. It provides related table information for these classifications and provides instructions for measuring. A recommended method of identifying clothing which is sized in accordance with the Standard is provided. The measurements given in the Standard were developed from a U.S. Department of Agriculture survey using age groups from 60 to 167 months. They are body, not garment measurements.

**2.1.1. Clothing allowances**—Adjustments to compensate for the effect of clothing for those who wish to convert tables 1 through 3 to "nude" measurements, are given in appendix A.

**2.1.2. Span chart**—A suggested span chart using key measurements is provided in appendix B as a guide to help consumers select a garment that will give them the best possible fit.

**2.1.3. Grading**—A guide to grading has been included in appendix C. The difference between similar body measurements of consecutive size designation within a classification is called the grade.

**2.2. Classification**—The three classifications provided are based on the girths (and weights) of the girls and are marked as follows:

- (a) "Slims" —Identified by size number plus the designation "S."
- (b) "Regulars" —Identified by size number plus the designation "R."
- (c) "Chubbies"—Identified by size number plus the designation " $\frac{1}{2}$ ."

Six size designations and 33 corresponding body measurements are given in tables 1 through 3 for the three classifications. The size designations in this Standard are identified by a number. There are six for each classification, as follows: 7, 8, 10, 12, 14, and 16. The numbers represent the height of the girls covered by the system. A size 10 girl whether Slim, Regular, or Chubbie will always be 55 inches (139.7 centimeters) in height with the corresponding body measurements shown in tables 1, 2, and 3.

<sup>1</sup> In ready-to-wear terminology, the designation "1/2" represents stocky body proportions, whether for young or mature people.



Table 1. SLIMS—GIRLS' BODY MEASUREMENTS \*

MEASUREMENT	SIZE					
	7S	8S	10S	12S	14S	16S
Stature.....	51	53	55	57½	60	62½
Weight (in pounds).....	53	59	67	77	89	103
GIRTH MEASUREMENTS						
Bust (chest).....	24¾	25½	27	28¾	30	31¾
Waist.....	20½	21	22	23	24	25
Hips.....	25¾	26¾	28¾	30¾	32¾	34¾
Vertical trunk.....	43¾	45½	47½	50	52¾	55
Neck base.....	11½	11¾	12¾	12¾	13¾	13¾
Armhole.....	11	11½	12	12¾	13¾	14¾
Upper arm.....	6¾	7¾	7½	7¾	8¾	8¾
Elbow.....	7¾	8¾	8½	8¾	9¾	9¾
Thigh.....	14	14¾	15¾	16¾	17¾	18¾
Calf, maximum.....	9¾	10	10½	11	11½	12½
Knee, tibiale.....	10¾	10¾	11¾	11¾	12¾	13
WIDTH AND LENGTH MEASUREMENTS						
Shoulder length.....	3¾	3¾	3¾	3¾	3¾	4
Cross-back width.....	10¾	10¾	11¾	11¾	12¾	12¾
Cross-chest width.....	9	9¾	9¾	10¾	10¾	11¾
Crotch length, total.....	20¾	21¾	22¾	24	25¾	26¾
Total posterior arm length.....	17¾	18¾	19¾	20¾	21¾	22¾
Shoulder and arm length.....	21¾	22¾	23¾	24¾	25¾	26¾
VERTICAL MEASUREMENTS						
Head and neck length.....	8¾	8¾	8¾	8¾	9	9¾
Cervicale height.....	42¾	44¾	46¾	48¾	51	53¾
Cervicale to knee.....	28¾	29¾	31¾	32¾	34¾	35¾
Soye depth, along spine.....	5¾	5¾	5¾	6	6¾	6¾
Trunk line, along body.....	5¾	6	6¾	6¾	6¾	7¾
Cervicale to waist, posterior.....	11	11½	12	12½	13¾	14
Neck to waist, anterior.....	9¾	10¾	10¾	11	11¾	12¾
Waist height.....	32	33¾	35¾	37	38¾	40¾
Waist to knee.....	17¾	18¾	19¾	20¾	21¾	22¾
Hip height.....	25¾	27	28¾	29¾	31	32¾
Waist to hips.....	6¾	6¾	6¾	7¾	7¾	8
Crotch height.....	23¾	24¾	25¾	26¾	27¾	29¾
Knee height.....	14¾	14¾	15¾	16¾	18¾	17¾
Ankle height.....	2¾	2¾	2¾	2¾	2¾	2¾

\* These measurements are body, not garment measurements. The size-to-size gradations between these body measurements may be applied to garment patterns or specifications in grading, but they are not to be considered actual garment measurements. All measurements are expressed in inches. (1 inch equals 2.540 centimeters, 1 pound equals 0.454 kilogram.)

Table 2. REGULARS—GIRLS' BODY MEASUREMENTS \*

MEASUREMENT	SIZE					
	7R	8R	10R	12R	14R	16R
Stature.....	51	53	55	57½	60	62½
Weight (in pounds).....	60	66	74	84	96	110
GIRTH MEASUREMENTS						
Bust (chest).....	26	27	28½	30	31½	33
Waist.....	22½	23	24	25	26	27
Hips.....	27½	28½	30	32	34	36
Vertical trunk.....	44½	46½	48½	51	53½	56
Neck base.....	11½	12½	12¾	13¾	13¾	14¾
Armscye.....	11½	12	12½	13¼	14	14¾
Upper arm.....	7¾	7¾	8¾	8¾	9	9¾
Elbow.....	8¾	8¾	8¾	9¼	9¾	10¼
Thigh.....	15¾	16¾	17¼	18¾	19½	20¾
Calf, maximum.....	10¾	10¾	11	11½	12¼	13
Knee, tibiale.....	10¾	11¼	11¼	12¼	12¾	13¾
WIDTH AND LENGTH MEASUREMENTS						
Shoulder length.....	3½	3¾	3¾	3¾	4	4¾
Cross-back width.....	10¾	11	11½	12	12¾	13
Cross-chest width.....	9¾	9¾	10¾	10¾	11½	11¾
Crotch length, total.....	21½	22¼	23½	24¾	26	27¼
Total posterior arm length.....	18	18¾	19¾	20¼	21¾	22¾
Shoulder and arm length.....	21½	22½	23½	24¾	25¾	26¾
VERTICAL MEASUREMENTS						
Head and neck length.....	8¼	8¾	8¾	8¾	9	9¼
Cervicale height.....	42¾	44¾	46½	48¾	51	53¼
Cervicale to knee.....	28¾	29¾	31½	32¾	34¾	35¾
Seye depth, along spine.....	5¾	5¾	5¾	6¾	6¾	6¾
Trunk line, along body.....	5¾	5¾	6¾	6¾	6¾	7¾
Cervicale to waist, posterior.....	11	11½	12	12¾	13¼	14
Neck to waist, anterior.....	10	10¾	10¾	11½	11¾	12¾
Waist height.....	32	33¾	35¾	37	38¾	40¾
Waist to knee.....	17¾	18¾	19¾	20¾	21¾	22¾
Hip height.....	25¾	27	28¾	29¾	31	32¾
Waist to hips.....	6¾	6¾	7	7¾	7¾	8¾
Crotch height.....	23¼	24¼	25¾	26¾	27¾	29¾
Knee height.....	14¾	14¾	15¾	16¾	16¾	17¾
Ankle height.....	2½	2½	2¾	2¾	2¾	2¾

\* These measurements are body, not garment measurements. The size-to-size gradations between these body measurements may be applied to garment patterns or specifications in grading, but they are not to be considered actual garment measurements. All measurements are expressed in inches. (1 inch equals 2.540 centimeters, 1 pound equals 0.454 kilogram.)

**Table 3. CHUBBIES—GIRLS' BODY MEASUREMENTS \***

MEASUREMENT	SIZE					
	7½	8½	10½	12½	14½	16½ <sup>b</sup>
Stature.....	51	53	55	57½	60	62½
Weight (in pounds).....	71	79	89	102	116	132
<b>GIRTH MEASUREMENTS</b>						
Bust (chest).....	28½	29½	31	32½	34	35½
Waist.....	26	26½	27½	28½	29½	30½
Hips.....	30½	31½	33	35	37	39
Vertical trunk.....	46½	48½	50½	53½	55½	58½
Neck base.....	12½	12¾	13¼	13¾	14½	14¾
Armscye.....	12¾	13¼	13¾	14½	15¼	16
Upper arm.....	8¾	9¼	9¾	10	10½	11
Elbow.....	8¾	9¼	9¾	10	10½	11
Thigh.....	18¾	19	19¾	21	22½	23¾
Calf, maximum.....	11¼	11¾	12¼	12¾	13¾	14¾
Knee, tibiale.....	11¼	12¼	12¾	13¾	14	14¾
<b>WIDTH AND LENGTH MEASUREMENTS</b>						
Shoulder length.....	3¾	3¾	3¾	4	4¼	4¼
Cross-back width.....	11¼	11½	12	12¾	13	13½
Cross-chest width.....	10½	10¾	10¾	11¾	11¾	12¾
Crotch length, total.....	23½	24¼	25½	26¾	28	29¼
Total posterior arm length.....	18¼	19¼	20	21	22	23
Shoulder and arm length.....	21¼	22¾	23¾	25	26¾	27¼
<b>VERTICAL MEASUREMENTS</b>						
Head and neck length.....	8¼	8¾	8½	8¾	9	9¼
Cervicale height.....	42¼	44¾	46½	48¾	51	53¼
Cervicale to knee.....	28¾	29¾	31¼	32¾	34¾	35¾
Scye depth, along spine.....	5¾	5¾	6¼	6¾	6¾	7¼
Trunk line, along body.....	5¾	5¾	5¾	6¾	6¾	6¾
Cervicale to waist, posterior.....	11	11½	12	12½	13¼	14
Neck to waist, anterior.....	10¾	10½	10¾	11¼	11¾	12¾
Waist height.....	32	33¾	35¼	37	38¾	40½
Waist to knee.....	17¾	18¾	19¾	20¾	21¾	22¾
Hip height.....	25¼	27	28¼	29¾	31	32¾
Waist to hips.....	6¾	7	7¼	7¾	8	8¾
Crotch height.....	23¾	24¼	25¾	26¾	27¾	29¼
Knee height.....	14¾	14¾	15¾	16¾	16¾	17¾
Ankle height.....	2½	2½	2¾	2¾	2¾	2¾

\* These measurements are body, not garment measurements. The size-to-size gradations between these body measurements may be applied to garment patterns or specifications in grading, but they are not to be considered actual garment measurements. All measurements are expressed in inches. (1 inch equals 2.540 centimeters, 1 pound equals 0.454 kilogram.)  
<sup>b</sup> The 16½ measurements have been extrapolated.

### 3. DEFINITIONS OF BODY LANDMARKS

Definitions of the more important body landmarks shown in figure 1 are as follows:

a. **Crown**—Top of head.

b. **Cervicale**—The prominent point on the seventh or lowest cervicale vertebra at the back of the neck which becomes more prominent when the head is bent forward. (Cervicale height measurements are taken, however, only when the head is in an erect position.)

c. **Waist**—The lower edge of the lower floating rib, located at the side of the body in a line directly below the center of the armpit.

d. **Hip**—The outer bony prominence of the upper end of the thigh bone (the femur).

e. **Knee**—The inner bony prominence of the upper end of the tibia, the larger of the two long bones of the leg extending from knee to ankle.

f. **Ankle**—The inner bony prominence of the lower end of the tibia, the larger of the two long bones of the leg extending from knee to ankle.

### 4. METHODS OF MEASURING <sup>2</sup>

#### 4.1. Vertical measurements—

4.1.1. **Stature**—Measure from crown to soles of feet.

4.1.2. **Cervicale height**—Measure from cervicale to soles of feet.

4.1.3. **Waist height**—Measure from waist to soles of feet. This waist height establishes the waist level around the body.

4.1.4. **Hip height**—Measure from hip to soles of feet.

4.1.5. **Knee height**—Measure from knee to soles of feet.

<sup>2</sup> Body measurements are recorded to the nearest  $\frac{1}{8}$  inch.

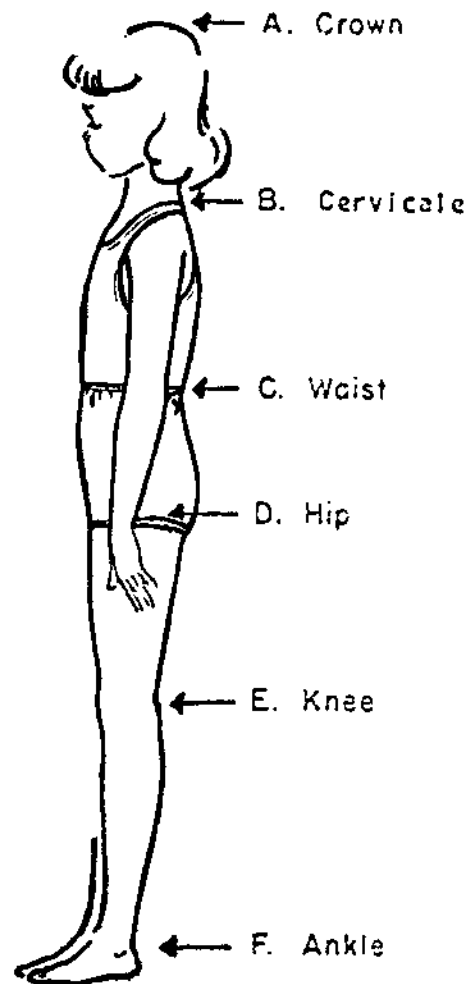


FIGURE 1. General location of principal body landmarks.

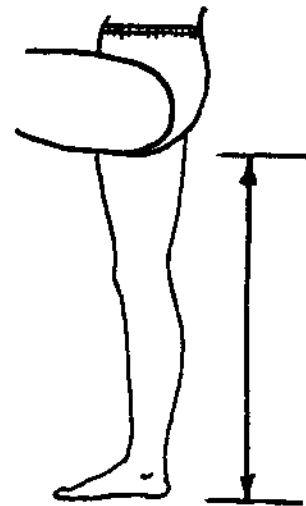


FIGURE 2. Crotch height.

4.1.6. **Ankle height**—Measure from ankle to soles of feet.

4.1.7. **Crotch height**—Measure from the midpoint of the crotch to the soles of feet. The end of the tape measure (or anthropometer) should be raised until it firmly presses against the flesh of the midpoint of the crotch, figure 2.

4.1.8. **Trunk line (armscye to waist)**—Measure from the mid-underarm point downward along the side of the body to the waist level.

4.1.9. **Scye depth**—Measure along the spine from the cervicale to a point level with the mid-underarm point, B to SD, figure 6.

#### 4.2. Girth measurements<sup>3</sup>—

4.2.1. **Bust (chest)**—Measure horizontally close up under arms. The measurement should include the lower portion of the shoulder blades, figure 3.

4.2.2. **Waist**—Measure horizontally at waist height with belt or sash removed, figure 3.

4.2.3. **Hip**—Measure horizontally at hip height, figure 3.

4.2.4. **Vertical trunk**—Measure from a point on the shoulder, midway between the neck and the normal armhole line, through the crotch, G through F to G, figure 4. The measurement should be taken without constriction at the crotch.

4.2.5. **Thigh**—Measure horizontally around the upper part of the leg, close up to the crotch, H through F to H, figure 4.

4.2.6. **Neck base**—Measure around the neck touching the cervicale at the back and the upper borders of the collar bone at the front, following the curve that would be made by a fine-linked chain passing over these landmarks, B through J to B, figures 5 and 6.

4.2.7. **Armscye**—Measure from a point at the armhole edge of the shoulder, midway between the acromion and the highest prominence at the outer end of the collar bone, through the underarm midpoint, K around the arm to K, figures 5 and 6.

<sup>3</sup> Girth measurements in this Standard include an allowance for clothing (see appendix A).

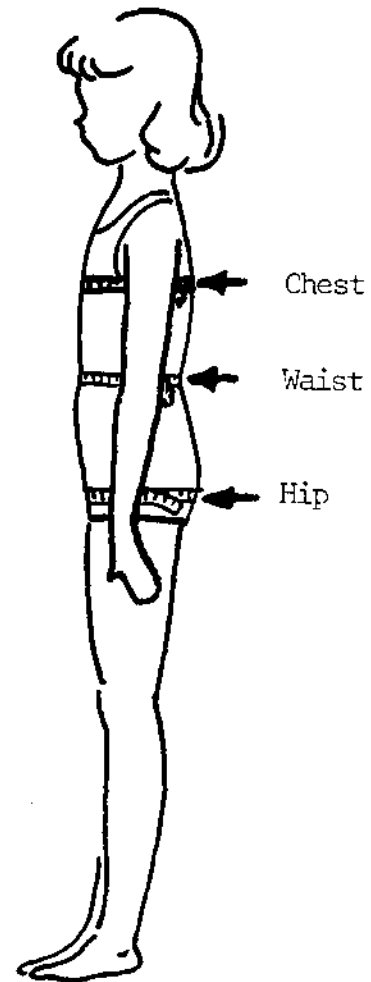


FIGURE 3. Girth measurements: chest, waist, and hip.

4.2.8. **Upper arm**—Measure from a point midway between the outer edge of the shoulder and the elbow, around the arm at U level, figure 4.

#### 4.3. Width and length measurements—

4.3.1. **Cross-back width**—Measure across the back from armscye to armscye, halfway between the cervicale and the bottom of the armscye, L to L', figure 6.

4.3.2. **Shoulder length**—Measure from most lateral point of neck girth measurement at shoulder to the armscye girth point on the shoulder, S, figure 6.



FIGURE 4. Vertical trunk, thigh, and upper arm girths.

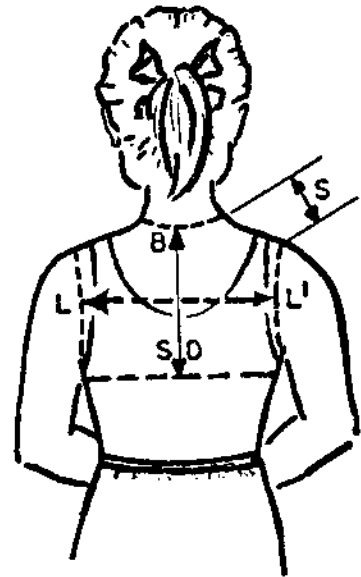


FIGURE 6. Armscye and neck girths, cross-back width, scye depth, and shoulder length.

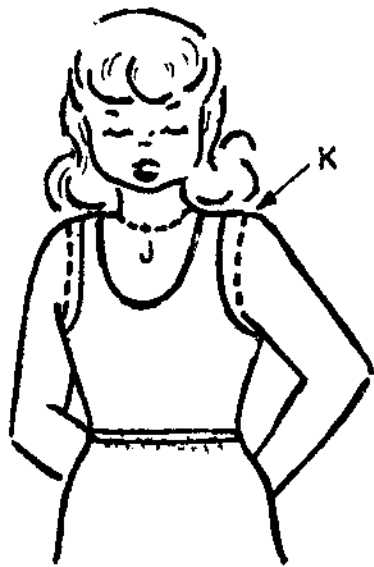


FIGURE 5. Armscye and neck girths.

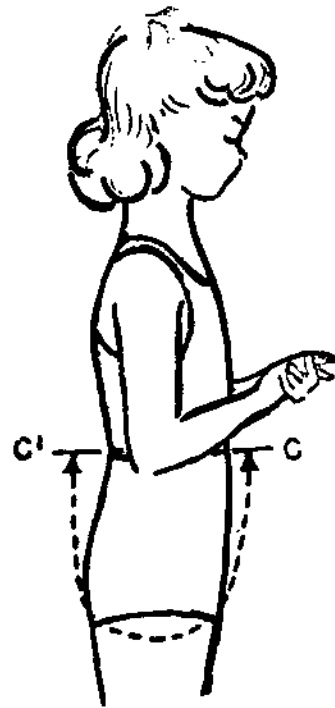


FIGURE 7. Total crotch length.



FIGURE 8. *Shoulder and arm length, and total posterior arm length.*

**4.3.3. Total crotch length**—Measure from waist level at the front, through the crotch, to the waist level at the back, C through crotch to C', figure 7. (For waist level, see 4.1.3.)

**4.3.4. Shoulder and arm length**—Measure from the intersection of the neck and shoulder lines along the outside (posterior) surface of the arm, with the elbow flexed, to the prominent wrist bone at the back of the hand, O to M, figure 8.

**4.3.5. Total posterior arm length**—Measure from the outer edge of shoulder over flexed elbow to wrist, N to M figure 8.

## 5. IDENTIFICATION

In order that purchasers may identify products conforming to all requirements of this Voluntary Product Standard, producers and distributors may include a statement of compliance in conjunction with their name and address on product labels, invoices, sales literature, and the like. The following statement is suggested when sufficient space is available:

This apparel is sized in accordance with Voluntary Product Standard PS 54-72, developed cooperatively with the industry and published by the National Bureau of Standards under the *Procedures for the Development of Voluntary Product Standards* of the U.S.

Department of Commerce. Full responsibility for the conformance of this product to the standard is assumed by (name and address of producer or distributor).

The following abbreviated statement is suggested when available space on labels is insufficient for the full statement:

Sized in accordance with Voluntary Product Standard PS 54-72, (name and address of producer or distributor).

## 6. EFFECTIVE DATE

The effective date of this Voluntary Product Standard is the date upon which reference to the Standard may be made by producers, distributors, users and consumers, and other interested parties. The effective date of this Standard is April 14, 1972. After this date, products shall not be labeled as conforming to the superseded standard, CS 153-48.

## 7. HISTORY OF PROJECT

**First edition**—Commercial Standard CS 153-48, *Body Measurements for the Sizing of Apparel for Girls*, was developed at the request of the Mail Order Association of America and was published with an effective date of January 19, 1949.

**Current revision**—In June 1967, the Mail Order Association of America completed a draft of a revision of CS 153-48. The primary reason for the revision was to include "Slim" and "Chubbie" classifications in addition to the "Regular" classification. At the same time, garment lengths were deleted; size 9 was deleted and size 16 was added to each classification; and span charts and grading charts were added as appendixes.

With the approval of the reconstituted Standing Committee, copies of the recommended standard, designated TS 117, were distributed on January 7, 1972, to clothing manufacturers, retailers, and consumers to determine its acceptability. An analysis of the responses indicated a consensus among the groups concerned as defined in the Voluntary Product Standards procedures.

Accordingly, the standard, designated Voluntary Product Standard PS 54-72, *Body Measurements for the Sizing of Girls' Apparel*, became effective on April 14, 1972.

*Technical Standards Coordinator:*

C. W. Devereux, II, Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234

## 8. STANDING COMMITTEE

The individuals whose names are listed below constitute the membership of the Standing Committee for this Standard. The function of the committee is to review all proposed revisions and amendments in order to keep this Standard up to date. Comments concerning this Standard and suggestions for its revision may be addressed to any member of the committee or to the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234, which acts as secretary for the committee.

### *Representing Producers*

Horace Goldberger, L. Wohl & Company, Inc.,  
1380 Howard Street, Harrisburg, Pa. 17104  
Louis Gidding, L. Gidding & Company, Inc., 520  
Eighth Avenue, New York, N.Y. 10018  
Henry Botkin, Perry Manufacturing Company,  
P.O. Box 1027, Mount Airy, N.C. 27030  
Stanley Love, Joseph Love, Inc., 1333 Broadway,  
New York, N.Y. 10018  
Diane Brumbaugh, Skyland International Corpo-  
ration, P. O. Box 5008, Chattanooga, Tenn.  
37406

### *Representing Distributors*

Aubrey Jay, Chairman, J. C. Penney Company,  
Inc. 1301 Avenue of the Americas, New York,  
N.Y. 10019  
Marie Tate, Sears, Roebuck and Company, 925  
S. Homan Avenue, Chicago, Ill. 60607  
Michael Feltser, Montgomery Ward and Com-  
pany, 393 Seventh Avenue, New York, N.Y.  
10001  
Lee Friend, Youth Fashion Guild, Inc., 2 East  
34th Street, New York, N.Y. 10016  
Morton Goldner, Spiegel, Inc., 1039 West 35th  
Street, Chicago, Ill. 60609

### *Representing Users*

Doris E. Hanson, American Home Economics  
Association, 1600 20th Street, N.W., Washington,  
D.C. 20009  
Hilda Jaffe, Fashion Institute of Technology, 227  
West 27th Street, New York, N.Y. 10001  
Evelyn Stout, Design and Environmental Anal-  
ysis, New York State College of Home Eco-  
nomics, Cornell University, Ithaca, N.Y. 14850  
Patricia DiSernia, American Girl Magazine, 830  
Third Avenue, New York, N.Y. 10022

### *Representing General Interest*

Florence Forziati, Institute of Home Economics,  
Division of Clothing and Housing, Agriculture  
Research Center, U.S. Department of Agri-  
culture, Washington, D.C. 20250

## 9. ACCEPTORS

The producers, distributors, users, and others listed below have individually indicated in writing their acceptance of this Voluntary Product Standard prior to its publication. The acceptors have indicated their intention to use this standard as far as practicable but reserve the right to depart from it when necessary. The list is published to show the extent of recorded public support for this Standard.

### ASSOCIATIONS

American Home Economics Association, Washington,  
D.C.  
American Retail Federation, Washington, D.C.  
California Home Economics Association, Newport  
Beach, Calif.  
Mail Order Association of America, Chicago, Ill.  
National Retail Merchants Association, New York,  
N.Y.  
Southwestern Ohio Consumers Association, Cincinnati,  
Ohio  
United Infants' & Children's Wear Association, New  
York, N.Y.

### PRODUCERS

Alpine Designs, Inc., Boulder, Colo.  
Amerex Uniform Corporation, New York, N.Y.  
Barsa & Brothers, Inc., New York, N.Y.  
Bayly Manufacturing Company, Denver, Colo.  
Bell Manufacturing Company, Denver, Colo.  
Blue Bell, Inc., Greensboro, N.C.  
Blue Jean Corporation, Whiteville, N.C.  
Blue Star Knitting Mills, Milwaukee, Wis.  
Bradlees, Braintree, Mass.  
Bureau of State Use Industries, Trenton, N.J.  
Cane County Corporation, Natchitoches, La.  
Carr Manufacturing Company, San Antonio, Tex.  
Charm of Hollywood, Los Angeles, Calif.  
Chic Pattern Service, Inc., New York, N.Y.  
Crest Apparel Company, Inc., New York, N.Y.  
Designers & Patternmakers Guild of Philadelphia, Melrose  
Park, Pa.  
Disposable World, Inc., Chicago, Ill.  
Edison Textiles, Inc., Edison, Ga.  
Eiseman, Florence, Inc., Milwaukee, Wis.  
Ely & Walker, Inc., Paragould, Ark.  
Fashionland, Inc., Jersey City, N.J.  
Freedman Uniform Company, Inc., Jacksonville, Fla.  
G & G Uniform Company, Inc., Baltimore, Md.  
Garro Industries, Inc., New Bedford, Mass.  
Goldee Kiddie Dress Company, Inc., New York, N.Y.  
Goulder Company, Inc., New York, N.Y.  
Honig, Jack L., Inc., New York, N.Y.  
Imperial Reading Corporation, Lynchburg, Va.  
J-Bar-T, Los Angeles, Calif.  
Jerold Corporation, The, Smithfield, N.C.  
Jodi Hill of California, Los Angeles, Calif.  
Joy Specialties, Inc., New York, N.Y.  
Kaye Coat Company, Passaic, N.J.  
Kayser Roth International, New York, N.Y.  
Lilly-Belle, Ltd., Brooklyn, N.Y.  
Mayer School of Fashion Design, New York, N.Y.  
Meyer, Herbert J., Industries, New York, N.Y.  
Miss Pat, Los Angeles, Calif.  
Modern Jacket Company, St. Louis, Mo.  
Pretti-Girl Frocks, Inc., Philadelphia, Pa.  
RayShar, Inc., Howard City, Mich.  
Robere Manufacturing Company, Inc., Blakely, Ga.  
Ro-Lé Manufacturing Company, Rockwall, Tex.  
Rollins, Robert, Blazers, Inc., New York, N.Y.  
Rome Specialties, Inc., Worcester, Mass.



Russell-Newman Manufacturing Company, Inc., Denton, Tex.  
 Sanmark Industries, Inc., New York, N.Y.  
 Scharf, Ruth, Ltd., New York, N.Y.  
 Shaw, Sandy, Inc., New York, N.Y.  
 Simon & Mogilner, Birmingham, Ala.  
 Skyland International Corporation, Chattanooga, Tenn.  
 Softwear Garment, Inc., El Paso, Tex.  
 Spectator Casuals, Inc., New York, N.Y.  
 Spencer of California, Tehachapi, Calif.  
 Standard Knitting Mills, Inc., Knoxville, Tenn.  
 Sternberg Knitting Company, Inc., New York, N.Y.  
 Stone Manufacturing Company, Greenville, S.C.  
 Sunset Sportswear, San Francisco, Calif.  
 Tuf Nut Company, Inc., Little Rock, Ark.  
 United Merchants and Manufacturers, Inc., New York, N.Y.  
 Val Lanne's Manufacturing Company, Salt Lake City, Utah.  
 Valor, New Bedford, Mass.  
 Ware Knitters, Inc., Ware, Mass.  
 Waterbury Garment Corporation, Waterbury, Conn.  
 Weiner, A., & Company, Philadelphia, Pa.  
 White Stag Manufacturing Company, Portland, Oreg.

### DISTRIBUTORS

Goodyear, William, and Company, Inc., Ann Arbor, Mich.  
 Mr. Sanford of California, Fresno, Calif.  
 Penney, J. C., Company, New York, N.Y.  
 Playmore Knits, Inc., Los Angeles, Calif.  
 Reputation Importing Company, Downsview, Ontario, Canada.  
 Sears, Roebuck and Company, Chicago, Ill.  
 Spiegel, Inc., Chicago, Ill.

### USERS

Ashland College, Ashland, Ohio  
 California State Polytechnic College, San Luis Obispo, Calif.  
 Consumers League of New Jersey, Montclair, N.J.  
 Girl Scouts of the U.S.A., New York, N.Y.  
 Laine, Lora, Macon Ga.  
 Lapidese, Martin, New Hyde Park, N.Y.  
 Marino, Marie, Long Island, N.Y.  
 Marshall Field & Company, Chicago, Ill.  
 Mayer School of Fashion Design, New York, N.Y.  
 Mississippi State University, State College, Miss.  
 Montclair State College, Upper Montclair, N.J.  
 Mott, Mrs. Michael, Atlanta, Ga.  
 Newark Senior High, Newark, Ohio  
 Oregon State University, Corvallis, Oreg.  
 Simpson, Mrs. William, Kensett, Iowa  
 Stam, Mrs. Barbara, Fallston, Md.  
 Texas Christian University, Fort Worth, Tex.  
 Thomas Pullen, Greenbelt, Md.  
 Van Santen, Garnet, Hollywood, Calif.  
 Wheble, Helen, Westland, Mich.

### GENERAL INTEREST

Abington Junior High, Abington, Mass.  
 Alabama, University of, University, Ala.  
 Armstrong, Mary, Union, N.J.  
 Barry College, Miami, Fla.  
 Birchard, Helen, Saratoga Springs, N.Y.  
 Bluffton College, Bluffton, Ohio  
 Connecticut, University of, Storrs, Conn.  
 Consumer Testing Labs, Inc., Boston, Mass.  
 Cornell University, Ithaca, N.Y.  
 Dayton, University of, Dayton, Ohio  
 Eastern Illinois University, Charleston, Ill.  
 Elsing Manufacturing Company, McAlester, Okla.  
 Files, Mrs. Melodie, Durham, N.C.  
 Florida A & M University, Tallahassee, Fla.  
 Fuller, Amelia, Richmond, Va.  
 Hamilton Central School, Hamilton, N.Y.

Hovermale, Ruth, Rock Hill, S.C.  
 Indiana University of Pennsylvania, Indiana, Pa.  
 Internatinal Wool Secretariat, Ilkley, Yorkshire, England  
 Johnson, Lydia, Frankfort, Ky.  
 Jonbil Manufacturing Company, Inc., Chase City, Va.  
 Kennett & Lindsell, Ltd., Essex, England  
 Kent State University, Kent, Ohio  
 Kimball Systems, Belleville, N.J.  
 Lamar University, Beaumont, Tex.  
 Mansfield State College, Mansfield, Pa.  
 Minnesota, University of, St. Paul, Minn.  
 Mississippi State University, State College, Miss.  
 Missouri, University of, Columbia, Mo.  
 Monk, Andrea, Boulder, Colo.  
 Monmouth Community Action Program, Long Branch N.J.  
 Montevallo, University of, Montevallo, Ala.  
 North Carolina A & T State University, Greensboro, N.C.  
 Ohio University, Athens, Ohio  
 Ohio State University, Columbus, Ohio  
 Oklahoma State University, Stillwater, Okla.  
 Parents' Magazine, New York, N.Y.  
 Pennsylvania State University, University Park, Pa.  
 Pittsburgh, University of, Pittsburgh, Pa.  
 Purdue University, Lafayette, Indiana  
 Rhode Island, University of, Kingston, R.I.  
 Southwestern Louisiana, University, Lafayette, La.  
 Stone, Florence, Huntington, W. Va.  
 Surface Chemists of Florida, Palm Beach, Fla.  
 Toledo Edison Company, Toledo, Ohio  
 Trieshmann, Helmuth, South Plainfield, N.J.  
 Uniroyal, Inc., Washington, Ind.  
 Vermont, University of, Burlington, Vt.  
 Wayne State University, Detroit, Mich.  
 Western Michigan University, Kalamazoo, Mich.  
 Willcox & Gibbs, Inc., New York, N.Y.  
 Winthrop College, Rock Hill, S.C.  
 Wisconsin, University of, Madison, Wis.

### FEDERAL, STATE, AND LOCAL GOVERNMENTS

Bureau of Standards, Harrisburg, Pa.  
 District of Columbia Bureau of Procurement, Washington, D.C.  
 Cooperative Extension Service, Cannelton, Ind.  
 Cooperative Extension Service, Ellsworth, Maine  
 Cooperative Extension Service, Cockeysville, Md.  
 Cooperative Extension Service, Jefferson City, Mo.  
 Cooperative Extension Service, Las Vegas, Nev.  
 Cooperative Extension Service, Rochester, N.H.  
 Cooperative Extension Service, University Park, Pa.  
 Cooperative Extension Service, Wenatchee, Wash.  
 Idaho Extension Service, Payette, Idaho  
 New Jersey Department of Institutions and Agencies, Trenton, N.J.  
 Tennessee Agricultural Extension Service, Knoxville, Tenn.

### APPENDIX A

#### CLOTHING ALLOWANCES

The size scales in this Standard represent girls dressed in undergarments.

"Nude" data may be obtained from tables 1 through 3 by subtracting the adjustments given below.

1. Weight.....	20 ounces.
2. Chest girth.....	$\frac{3}{4}$ inch.
3. Waist girth.....	$\frac{1}{2}$ inch.
4. Hip girth.....	$\frac{3}{4}$ inch.
5. Vertical trunk girth.....	1 inch.
6. Total crotch length.....	$\frac{1}{2}$ inch.

### APPENDIX B—SPAN CHART

The following span charts are to be used only as a guide to help consumers select a garment that will give them the best possible fit. All measurements are expressed in inches.

Height.....	49-51½	52-53½	54-55½	56-58	58½-60½	61-63
REGULARS						
Bust (chest).....	7R 25½-26½	8R 26½-27½	10R 28-29	12R 29½-30½	14R 31-32	16R 32½-33½
Waist.....	22½-23	23-23½	24-24½	25-25½	26-26½	27-27½
Hip.....	27½-28	28-29	29½-30½	31-32½	33-34½	35-36½
SLIMS						
Bust (chest).....	7S 24-25	8S 25-26	10S 26½-27½	12S 28-29	14S 29½-30½	16S 31-32
Waist.....	20½-21	21-21½	22-22½	23-23½	24-24½	25-25½
Hip.....	25½-26	26-27	27½-28½	29-30½	31-32½	33-34½
CHUBBIES						
Bust (chest).....	7½	8½	10½	12½	14½	16½
Waist.....	28-29	29-30	30½-31½	32-33	33½-34½	35-36
Hip.....	26-26½	26½-27	27½-28	28½-29	29½-30	30½-31
	30½-31	31-32	32½-33½	34-35½	36-37½	38-39½

**APPENDIX C—GRADE CHARTS**

**Girls' Slims**

	Grade between 7S-8S	Grade between 8S-10S	Grade between 10S-12S	Grade between 12S-14S	Grade between 14S-16S
<b>GIRTH MEASUREMENTS (inches)</b>					
Bust (chest).....	1	1½	1½	1¾	1¾
Waist.....	¾	1	1	1	1
Hip.....	1	1½	2	2	2
Vertical trunk.....	2	2	2½	2½	2½
Neck base.....	¼	½	½	¾	¾
Armscye.....	½	½	¾	¾	¾
Upper arm.....	½	¾	¾	1½	1½
Elbow.....	¾	¾	¾	¾	¾
Thigh.....	¾	¾	1½	1½	1½
Calf, max.....	¾	¾	¾	¾	¾
Knee, tibiale.....	¾	¾	¾	¾	¾
<b>WIDTH AND LENGTH MEASUREMENTS (inches)</b>					
Shoulder length.....	¾	¾	¾	¾	¾
Cross back width.....	¼	½	½	½	½
Cross chest width.....	¼	½	½	½	½
Crotch length, total.....	¾	1¼	1¼	1¼	1¼
Total posterior arm length.....	¾	¾	1	1	1
Shoulder and arm length.....	1	1	1½	1½	1½
<b>VERTICAL MEASUREMENTS (inches)</b>					
Head and neck length.....	¾	¾	¾	¾	¾
Cervicale height.....	1¾	1¾	2¼	2¼	2¼
Cervicale to knee.....	1¼	1¼	1¾	1¾	1¾
Scye depth, along spine.....	¾	¾	¾	¾	¾
Trunk line, along body.....	¾	¾	¾	¾	¾
Cervicale to waist, posterior.....	½	¾	¾	¾	¾
Neck to waist, anterior.....	¾	¾	¾	¾	¾
Waist height.....	1¾	1¾	1¾	1¾	1¾
Waist to knee.....	1	1	1	1	1
Hip height.....	1¼	1¼	1¾	1¾	1¾
Waist to hips.....	¾	¾	¾	¾	¾
Crotch height.....	1¾	1¾	1¾	1¾	1¾
Knee height.....	¾	¾	¾	¾	¾
Ankle height.....	0	¾	0	0	¾

**APPENDIX C—GRADE CHARTS—Continued**

**Girls' Regulars**

	Grade between 7R-8R	Grade between 8R-10R	Grade between 10R-12R	Grade between 12R-14R	Grade between 14R-16R
<b>GIRTH MEASUREMENTS (inches)</b>					
Bust (chest).....	1	1½	1½	1½	1½
Waist.....	½	1	1	1	1
Hip.....	1	1½	2	2	2
Vertical trunk.....	2	2	2½	2½	2½
Neck base.....	¾	¾	¾	¾	¾
Armseye.....	½	½	¾	¾	¾
Upper arm.....	¾	¾	¾	¾	¾
Elbow.....	¾	¾	¾	¾	¾
Thigh.....	¾	¾	1½	1½	1½
Calf, max.....	¾	¾	¾	¾	¾
Knee, tibiale.....	½	½	½	¾	¾
<b>WIDTH AND LENGTH MEASUREMENTS (inches)</b>					
Shoulder length.....	¾	¾	¾	¾	¾
Cross back width.....	¾	¾	¾	¾	¾
Cross chest width.....	¾	¾	¾	¾	¾
Crotch length, total.....	¾	1¼	1¼	1¼	1¼
Total posterior arm length.....	¾	¾	1	1	1
Shoulder and arm length.....	1	1	1½	1½	1½
<b>VERTICAL MEASUREMENTS (inches)</b>					
Head and neck length.....	¾	¾	¾	¾	¾
Cervicale height.....	1¾	1¾	2¼	2¼	2¼
Cervicale to knee.....	1¼	1¼	1½	1½	1½
Scye depth, along spine.....	¾	¾	¾	¾	¾
Trunk line, along body.....	¾	¾	¾	¾	¾
Cervicale to waist, posterior.....	½	¾	¾	¾	¾
Neck to waist, anterior.....	¾	¾	¾	¾	¾
Waist height.....	1¾	1¾	1¾	1¾	1¾
Waist to knee.....	1	1	1	1	1
Hip height.....	1¼	1¼	1¾	1¾	1¾
Waist to hips.....	¾	¾	¾	¾	¾
Crotch height.....	1¼	1¼	1¼	1¼	1¼
Knee height.....	¾	¾	¾	¾	¾
Ankle height.....	0	¾	0	0	¾

**APPENDIX C—GRADE CHARTS—Continued**

**Girls' Chubbies**

	Grade between 7½-8½	Grade between 8½-10½	Grade between 10½-12½	Grade between 12½-14½	Grade between 14½-16½
<b>GIRTH MEASUREMENTS (inches)</b>					
Bust (chest).....	1	1½	1½	1½	1½
Waist.....	¾	1	1	1	1
Hip.....	1	1½	2	2	2
Vertical trunk.....	2	2	2½	2½	2½
Neck base.....	¾	¾	¾	¾	¾
Armseye.....	¾	¾	¾	¾	¾
Upper arm.....	¾	¾	¾	¾	¾
Elbow.....	¾	¾	¾	¾	¾
Thigh.....	¾	¾	1¼	1¼	1¼
Calf, max.....	¾	¾	¾	¾	¾
Knee, tibiale.....	¾	¾	¾	¾	¾
<b>WIDTH AND LENGTH MEASUREMENTS (inches)</b>					
Shoulder length.....	¾	¾	¾	¾	¾
Cross back width.....	¾	¾	¾	¾	¾
Cross chest width.....	¾	¾	¾	¾	¾
Crotch length, total.....	¾	1¼	1¼	1¼	1¼
Total posterior arm length.....	¾	¾	1	1	1
Shoulder and arm length.....	1	1	1¼	1¼	1¼
<b>VERTICAL MEASUREMENTS (inches)</b>					
Head and neck length.....	¾	¾	¾	¾	¾
Cervicale height.....	1¾	1¾	2¼	2¼	2¼
Cervicale to knee.....	1¼	1¼	1½	1½	1½
Scye depth, alone spine.....	¾	¾	¾	¾	¾
Trunk line, along body.....	¾	¾	¾	¾	¾
Cervicale to waist, posterior.....	¾	¾	¾	¾	¾
Neck to waist, anterior.....	¾	¾	¾	¾	¾
Waist height.....	1½	1½	1¾	1¾	1¾
Waist to knee.....	1	1	1	1	1
Hip height.....	1¼	1¼	1½	1½	1½
Waist to hips.....	¾	¾	¾	¾	¾
Crotch height.....	1¼	1¼	1½	1½	1½
Knee height.....	¾	¾	¾	¾	¾
Ankle height.....	0	¾	0	0	¾